

Other National Health Promotion and Disease Prevention Objectives related to National Education Goal 6:

Violent and Abusive Behavior

7.1: Reduce homicides to no more than 7.2 per 100,000 people.

7.2a: Reduce suicides to no more than 8.2 per 100,000 youth aged 15–19.

7.3: Reduce weapon-related violent deaths to no more than 12.6 per 100,000 people from major causes.

7.4: Reverse to less than 25.2 per 1,000 children the rising incidence of maltreatment of children younger than age 18.

7.6: Reduce assault injuries among people aged 12 and

older to no more than 10 per 1,000 people.

7.7: Reduce rape and attempted rape of women aged 12 and older to no more than 107 per 100,000 women.

7.9: Reduce by 20 percent the incidence of physical fighting among adolescents aged 14 through 17.

7.10: Reduce by 20 percent the incidence of weapon-carrying by adolescents aged 14 through 17.

7.16: Increase to at least 50 percent the proportion of elementary and secondary schools that teach nonviolent conflict resolution skills, preferably as a part of quality school health education.

7.17: Extend coordinated, comprehensive violence prevention programs to at least 80 percent of local jurisdictions with populations over 100,000.

Developing Cancer Control Capacity in State and Local Public Health Agencies

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Synopsis

In 1986, the National Cancer Institute began a major grant program to enhance the technical

capabilities of public health departments in cancer prevention and control. This effort, commonly referred to as "capacity building" for cancer control, provided funding to support eight State and one local health department.

The program focused on developing the knowledge and skills of health department personnel to implement intervention programs in such areas as smoking cessation, diet modification, and breast and cervical cancer screening. The grants ranged from 2 to 5 years in length, with funding of \$125,000 to \$1.6 million per grant. The total for the program was \$7.4 million.

While the priorities set for these grants were nominally similar, their capacity building activities in cancer prevention and control evolved into unique interventions reflecting the individual needs and priorities of each State or locality. Their experiences illustrate that technical development for planning, implementing, and evaluating cancer prevention and control programs is a complex process that must occur at multiple levels, regardless of overall approach.

Factors found to contribute to successful implementation of technical development programs include

- *commitment of the organization's leadership to provide adequate support for staff and activities*

and to keep cancer prevention and control on the organizational agenda,

- the existence of appropriate data to monitor and evaluate programs,*
- appropriately trained staff,*
- building linkages with State and community agencies and coalitions to guide community action,*
- an established plan or process for achieving*

cancer control objectives,

- access to the advice of and participation of individual cancer and health experts,*
- an informed State legislature,*
- diffusion of cancer prevention and control efforts, and*
- the ability to obtain funds needed for future activities.*

IN 1985, THE NATIONAL CANCER INSTITUTE (NCI) established a set of quantified objectives for a reduction in cancer mortality by the year 2000. NCI officials estimated that a decrease in the cancer mortality rate from 25 to 50 percent would be possible through aggressive application of existing knowledge of cancer prevention and control methods in such areas as smoking cessation, diet modification, breast and cervical cancer screening, and state-of-the-art treatment (1).

Although the cancer control objectives address only the feasibility of reductions in cancer mortality, as opposed to specifics on how these reductions actually will be achieved, the NCI recognized that Federal and State agencies, local governments, private industry, professional organizations, voluntary organizations, and the media would need to participate and take action if progress towards the year 2000 goal is to be made. Thus, at the same time that the cancer control objectives were being established, the NCI began an active effort to involve potential interveners in the implementation of cancer prevention and control activities.

This paper focuses on the first major grant program of the NCI to enhance the technical capabilities of public health departments as potential interveners in cancer prevention and control. The program, entitled "Cancer Control Technical Development in Health Agencies (TDHA)," focuses on developing the knowledge and skills of health department personnel to implement intervention programs in cancer prevention and control. This effort has since been referred to as "capacity building" for cancer control.

Background

The TDHA grants that were first awarded in 1986 are one of several cancer grant programs funded by NCI under its Public Health Agency Initiative (PHAI). The importance of the TDHA grants specifically, and the PHAI in general, stems from their support of different approaches to

capacity building by public health agencies to control an important chronic disease—cancer. Experience gained in building capacity for conducting cancer control programs also should be applicable to other chronic disease programs.

Health departments form a national infrastructure through which the public's health can be addressed. Since the establishment of the first health departments at the beginning of the 19th century, public health agencies have played a unique and important role in providing preventive community health services (2). Although health departments historically have focused on communicable disease prevention and control, rather than chronic disease, the mandate of the health department nevertheless is to assure access to preventive health services by all citizens. Some State health agencies do not directly provide services, while others, along with many local departments, provide direct personal services to a significant portion of the population—most often otherwise underserved (3). The health department also plays an important role as neutral convener of a broad range of community groups and agencies. As the agency responsible for setting statewide public health priorities, the health department is in a unique position to stimulate community action to address the public health.

It is only in recent years that public health departments have recognized the need for an increase in planned, scientifically based activity for the control of a spectrum of chronic diseases, including cancer. In 1985, when TDHA grant proposals were first solicited from health agencies, only three States had published freestanding cancer control plans, New York (1982), Pennsylvania (1984), and Texas (1984). Two other States, Georgia (1983) and Maine (1980), had extensive cancer control sections as part of larger public health plans. Although 31 States had enacted legislation to establish cancer registries, and some State money was funding cancer research, screening, and prevention activities, little systematic effort existed at

either the Federal or State level to support the planning, implementation, and evaluation of public health cancer control programs.

To stimulate cancer control activities by health departments, the NCI convened a series of working groups of health agency representatives. These groups found that State and local health departments lacked expertise in areas such as specific problem identification, epidemiologic analysis, marketing, coalition building, program planning, evaluation, and the development of initiatives that would help them to obtain ongoing support from Federal funding agencies and State budgets for cancer prevention and control. They recommended that support be provided to build expertise in these areas. In response, the Cancer Control Technical Development Program invited grant applications in support of projects that would demonstrate the strengthening of the technical capabilities of health departments to plan and establish cancer control and prevention interventions.

In 1986, NCI's Division of Cancer Prevention and Control awarded the following grants:

California Department of Health Services, \$1.6 million for 5 years;
 Colorado Department of Health, \$766,000 for 5 years;
 Connecticut Department of Health Services, \$477,000 for 3 years;
 Los Angeles County Department of Health Services, \$1.6 million for 5 years;
 Maine Department of Human Services, \$125,000 for 2 years;
 Massachusetts Department of Public Health, \$922,000 for 5 years;
 Michigan Department of Public Health, \$787,000 for 4 years;
 Minnesota Department of Health, \$496,000 for 3 years; and
 Missouri Department of Health, \$597,000 for 5 years (figure).

The differences in the term and amount awarded reflect differences in the scope of activities proposed by the health departments in their applications for grants.

Funding was provided for training of health department staff personnel, development and testing of programmatic materials, conducting surveys, establishment of consortia, and use of consultants. Financial support was not available for the provision of direct services to individual persons, however. Applicants were asked to describe proposed

Priorities among cancer control technical development grantees

NCI cancer control priorities	CA-LA	CA	CO	CT	ME	MA	MI	MN	MO
Cessation and prevention of tobacco use	X	...	X	X	...	X	X	X	X
Cervical cancer detection	X	...	X	X	X	...	X	...	...
Breast cancer detection	X	...	X	X	X	X	X	X	X
Access to state-of-the-art treatment .....	...	...	X	...	X	...	...	...	...
Diet modification .....	...	X	X	X	...	X	...	X	...
Environmental-occupational exposure reduction .....	...	...	...	...	X	X	X	...	...

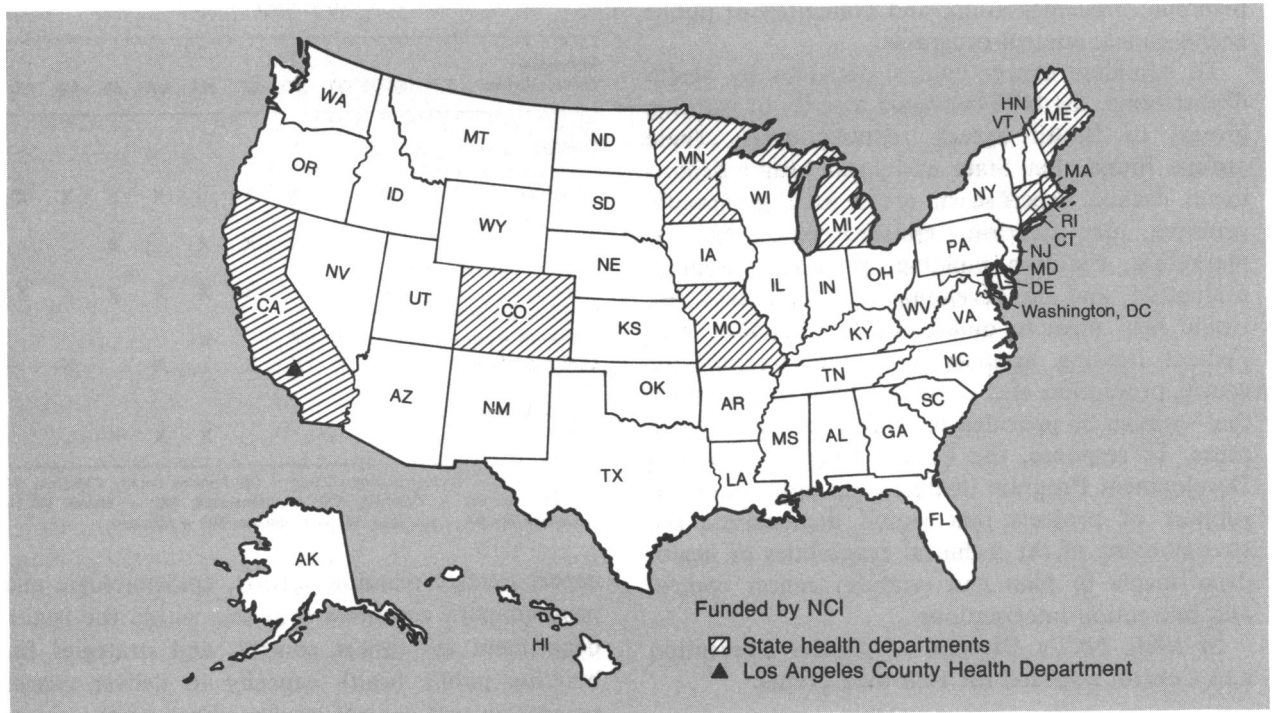
NCI = National Cancer Institute; CA-LA = Los Angeles County, California; CA = California; CO = Colorado; CT = Connecticut; ME = Maine; MA = Massachusetts; MI = Michigan; MN = Minnesota; MO = Missouri.

cancer control planning efforts, epidemiologic and programmatic resources available within the health department for cancer control, and strategies for building public health capacity to deliver cancer prevention and control services. Each of the grantees was required to address at least one of six priority areas identified in the NCI Cancer Control Objectives for the Nation: 1985-2000 (*1*), namely,

- cessation and prevention of smoking
- cervical cancer detection
- breast cancer detection
- access to state-of-the-art treatment
- environmental-occupational exposure reduction
- diet modification

The table reviews the priorities addressed in each grant application. Given the long lead time in the grant application-review-award process and changing local conditions and priorities, there were some adjustments in emphasis after awards were made. All but one health agency addressed multiple cancer control priorities. Only California chose to address a single risk factor—nutrition. The most frequently designated priority areas were those within the generally accepted realm of public health—prevention and screening.

While priorities were nominally similar, the following brief summaries of these grants illustrate how the cancer prevention and control capacity building activities evolved into unique interventions reflecting the individual needs and priorities of each State or locality. These summaries highlight, but do not describe in detail all of the activities in which the grantees were engaged. At the onset of



the grant program, it was anticipated that there would be a framework, or implementation process, common to all of the grants awarded. As we now reflect on what has been accomplished by these projects, both individually and collectively, however, we must acknowledge that they directed their efforts in very different ways. While the experiences do not allow us to describe a “packaged” approach to technical development, they do offer an opportunity to describe capacity building at different levels, interpret what has happened, and to formulate some conclusions regarding components of, or approaches to, the technical capacity building process that are likely to have a lasting impact.

A Sample of Approaches

Los Angeles County: staff training and service delivery. Los Angeles was the only *county* health department to be awarded a technical development grant. As a large provider of direct services, its emphasis was to begin capacity building internally around the multiple services that it delivered. With the assistance of the University of California at Los Angeles (UCLA) Jonsson Comprehensive Cancer Center, a series of workshops in each of the three priority areas chosen (tobacco use, cervical cancer detection, and breast cancer detection) was con-

ducted for department staff members. As a result of these sessions, three specific interventions were recommended for implementation: a smoking cessation program for departmental staff members, cervical screening for women ages 45 and older at four comprehensive health centers, and a screening mammography program for age-eligible hospital employees at a local hospital. Experience gained from the screening interventions led to additional changes in clinic procedures and are the basis for several funded research projects in collaboration with UCLA.

Connecticut: training. Connecticut focused on training, but not for direct service delivery. Rather, it used its grant to develop the capacity for social marketing techniques to identify and implement cancer control strategies to improve existing activities and to work with other pertinent agencies. Staff members learned to use marketing methods and tools, such as focus groups and marketing research surveys, to collect information on the cancer control attitudes, beliefs, and practices of various institutions and segments of the population. These preliminary activities enabled the health department to plan and carry out such cancer prevention and control programs as using specially prepared videotapes and instruction manuals to teach nutrition to

institutional food service workers and promoting breast and cervix screening by educating the public and health and medical professionals.

Massachusetts: coalition building. Initially, the Massachusetts Department of Public Health used a staff training approach, heavily investing resources in training health department staff members responsible for program development in the six health areas of the State (Health Area Coordinators) in the principles of cancer control, such as epidemiology, biology, and so forth. This proved to be problematic in that there was a high staff turnover with no efficient way to repeat the training for new appointees. The effort now is aimed at developing statewide capacity through pooled skills and resources. The pivotal training concept has been redirected from in-depth training of selected health department staff members to a broad orientation of a wide range of health workers and community representatives on cancer prevention and control strategies. Potential areas for intervention include worksite programs, legislative activity, public information and education, and nutrition related health promotion.

Missouri: coalition building. Having decided on cessation and prevention of tobacco use and the early detection of breast cancer as its targets, the Missouri Department of Health adopted a strategy that relied upon coalition building to achieve these objectives. A cancer advisory council was organized among representatives of relevant public and private interest groups with staffing provided by grant supported personnel. The council was able to produce and promulgate a State cancer plan and a cancer resource directory to unite key voluntary organizations in support of lobbying the State legislature. Results of a survey of State legislators' knowledge and attitudes about cancer helped to direct the educational efforts of the council and health department staff that resulted in the passage of legislation requiring insurance coverage of screening mammography. The department has successfully extended the coalition model by organizing and providing technical assistance to four local coalitions around the State. Projects completed by these coalitions include press and educational conferences, cancer information public service announcements, guides for available cancer screening services, cancer screening clinics, a tobacco free school policy guide for school boards, innovative Great American Smoke-Out programs, and anti-tobacco advertising campaigns.

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Colorado: credibility. The Colorado Department of Health (CDH) collaborated with the American Cancer Society (ACS) on mammography screening projects in 1988 and 1989. The primary role of CDH was to help plan and evaluate the project. Three versions of reminder letters encouraging women to return for annual repeat examinations were tested. Information from these evaluations helped CDH with design of a statewide screening mammography registry. By becoming involved with the ACS mammography projects, the department has solidified its relationships with a statewide network of free-standing and hospital-based mammography centers and has gained transferable experience in operating a statewide screening and tracking program. CDH enlisted the cooperation of school districts around the State in a survey of smoking policies and practices for students and staff. The success of the smoking and mammography projects established the credibility of the health department as an expert in cancer control and contributed to the successful passage of legislation requiring third-party coverage of screening mammography.

Michigan: policy and legislation. Authorized by State statute, the Michigan Cancer Consortium was appointed in 1987 and is the principal advisory group to the State health department on cancer issues. The receipt of NCI's TDHA grant in 1987 made it possible for the health department to move ahead quickly on the consortium's first two priorities—breast cancer and tobacco use. NCI grant-supported staff members organized and facilitated the work of a 45-member Michigan Tobacco Reduction Task Force and a breast cancer task force. Resulting reports describe the impact of tobacco use on the Michigan population and contain more than 40 recommendations intended to halve tobacco consumption in the State by the year 2000. The report on "Breast Cancer Screening and Detection in Michigan: Recommendations to Reduce Mortality" includes age-specific screening guidelines and recommendations regarding the responsibilities of primary physicians, radiologists, sur-

geons, and pathologists in reducing breast cancer mortality.

Additional efforts have focused on developing the capacity for State and locally based advocacy concerning cancer policies and legislation. Cancer consortium members and cancer program staff members joined other advocates in a successful legislative effort over a 3-year period that resulted in a 4-cents-per-pack tax increase on cigarettes, a computer software sales tax earmarked for health promotion activities, and passage of six tobacco-related bills.

Minnesota: community organization. As a result of a funding delay, the Minnesota Department of Health's original plan to evaluate a series of State smoking prevention and control grants was not feasible. Most TDHA grant activities and resources were shifted to a model community intervention program on nutrition and tobacco use prevention called the Cancer Prevention Project of the St. Cloud Area (CPPSCA). St. Cloud is the largest city in central Minnesota. The primary goals of the CPPSCA are to enhance existing health promotion and cancer prevention activities and to mount new cancer prevention initiatives through a coalition of community leaders in consultation with the State health department. The coalition membership is composed of 18 community leaders from diverse sectors who have volunteered their time to promote cancer prevention activities. Four activities have been undertaken by the CPPSCA: (a) stimulating participation in "Smoke Free Class of 2000" for kindergarten and first grade classes, (b) increasing public awareness of cancer prevention and control through the use of local media, (c) designing and implementing a school lunch program to reduce cancer risk, and (d) mobilizing support for non-smoking ordinances.

Maine: surveillance. Maine ranks second of all the States in the rate of incidence of reported occupational illnesses and injuries and first in total lost workdays. There also appears to be an excess of cancer mortality in the population but not an excess of cancer incidence. It was believed that improved cancer incidence data would enable Maine to focus and direct its energy better on the incidence and risk factors for breast and cervical cancer and on the risk factors for occupational environmental cancer. The goal of Maine's 2-year program was to evaluate and improve the overall quality of the State's cancer registry data base, focusing particularly on employment history informa-

tion and preparing for possible studies on the causes of the apparent excess in cancer mortality rates. A key element of the grant was training hospital registrars on procedures for reporting and abstracting occupational history data. The improved data were used to support the development of breast and cervical cancer intervention projects and occupational cancer investigations. These projects are being supported by new Federal and State resources.

California: prevention. California had determined that among cancer prevention and control strategies, diet modification was the least well developed. Based upon a strategic assessment of opportunities and barriers, as well as dietary surveys in two counties, getting the populace to eat more fruits and vegetables was chosen as a priority. The "5 a Day - for Better Health" campaign to double consumption of fruits and vegetables to at least five servings every day was developed in cooperation with the produce and supermarket industries and the State Department of Food and Agriculture.

The mass media public awareness campaign, findings from the first statewide dietary survey, retail based promotions, and consumer materials have gained wide visibility throughout the State. The campaign has been adopted by Vermont and Louisiana and has been approved for national implementation. Dietary guidance policy incorporating cancer prevention principles has been established for use within State governments, and the State legislature has established an annual per capita consumption goal for fruits and vegetables. In the face of severe shortfalls in the State budget, legislation to enable the "5 a Day" campaign to receive tax-free contributions from a variety of private sector sources has been introduced.

Discussion

Although their priorities were similar, each health department chose a different approach to build capacity for cancer control. Their experiences illustrate that technical development for planning, implementing, and evaluating cancer prevention and control programs is a complex process that must occur at multiple levels, regardless of overall approach, to ensure that the activities continue beyond the time-limited funding of a particular grant. The diversity in initiating cancer prevention and control initiatives is also due to differences in characteristics of the States. A recent survey of State health officials found common agreement

about their departments' duties and responsibilities but disagreement concerning the infrastructure components needed to fulfill these duties (4).

Both internal and external factors contribute to successful implementation and institutionalization of technical development programs. The internal factors include

1. Commitment of the organization's leadership to provide adequate support for staff and activities and to keep cancer prevention and control on the organizational agenda.

The health departments most likely to continue and expand cancer control activities are those that have made cancer control a priority and have institutionalized their cancer control programs. Institutionalization may be thought of as the final stage of an innovation-diffusion process in which program innovations that institutionalize successfully "settle" into their host organizations as integrated components (5).

Officials in all nine projects report a net gain in full-time cancer control staff since receiving the grant award. While eight of the nine health departments had no staff for cancer control before the grant award, all anticipate having at least one full-time staff person beyond the period of award (current and anticipated staff range from 1 to 59, with a median of 3 current and anticipated). The grantees believe that this evidence of institutionalization is a clear measure of success in capacity building.

Eight of the nine health agencies did not have a designated cancer control unit prior to the grant. Of these eight, seven have established cancer control units (or cancer control staff within a chronic disease unit) as a result of the capacity building process, and they anticipate that these units will continue. Michigan achieved a statutory base for its breast and cervical cancer activities. Thus, part of the capacity building process has been the leaders' commitment to develop and support an organizational structure for conducting cancer control activities.

2. Existence of appropriate data to monitor and evaluate programs.

Ability to perform surveillance and evaluate cancer control activities is a critical technical component of an agency's capacity to measure the effectiveness of its programs. Staff members in six of the nine projects report that they had some data needed for planning and evaluating cancer control interventions prior to beginning grant activities, such as cancer incidence and mortality data, for

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example. However, some essential data, such as those on risk factors, were not yet available. All nine departments anticipate having relevant data at the end of the grant, although these data may not be as comprehensive as program planners would like. Dietary data on fat and fiber consumption are still scanty, as an example.

3. Appropriately trained staff.

While four agencies provided formal training to their staff members, the experience and informal training gained during the process of developing cancer control activities and the resultant staff dedication were considered by the grantees to be a measure of capacity building. It should be noted that while all of the grantees found it necessary to hire or train staff, or both, to conduct cancer intervention programs, these actions were not sufficient for successful programming. For example, in one State, staff members were trained and then left the department, thus impeding program advancement. In another State, where a special position was created and staff turnover has not been a problem, the emphasis on one programmatic area, such as nutrition, did not enhance the department's capacity to conduct programs in other priority areas like screening. What may be critical to broad success in cancer control, then, is the ability to train staff, or offer work experience, in program planning, survey sampling, and other areas that can be applied to a variety of cancer control problems. The staff development process, however, must be integrated into the existing organizational structure.

4. Ability to obtain funds needed for future activities.

Confronted with limited resources to initiate and maintain new cancer control activities, an important capacity of the agency is to be able to attract funds from a variety of sources. As part of the capacity building process, seven departments were successful in obtaining additional State or Federal funds to pursue the same or similar cancer control activities. Officials in several projects are in the process of applying for additional public and

private funding to continue their activities. Thus, these agencies not only developed the technical expertise to conduct cancer control programs, they also developed the technical capacity to generate resources beyond the initial grant to continue and expand their cancer control efforts.

The external factors that contribute to implementation and institutionalization of technical development programs include

1. Building linkages with State and community agencies and coalitions to guide community action.

All but one of the capacity building projects had community involvement as an objective. Most of the coalitions and specialized committees that evolved from capacity building did not exist prior to the initiation of the project. It appears very likely that the coalitions will continue well into the future (some are even trying to secure their own source of funding from private sources or non-profit agencies). Most of the coalitions that developed were composed of participants from the private sector, voluntary organizations, academic institutions, and health and social service organizations. Several coalitions were statewide. A majority of project staff members felt that the successful formation and maintenance of these coalitions is an important measure of the "success" of the capacity building process, especially in the policy and legislation areas.

2. An established plan or process for achieving cancer control objectives.

Eight of the nine grantee agencies had no cancer control plan prior to receipt of the TDHA grant. The one plan that existed prior to capacity building was for breast cancer only. Cancer control plans have been completed for five of the projects, and plans are under development for two. It is anticipated that all but one of the grantees will have cancer control plans at the end of the grant period; however, one of these plans will be for breast and cervical cancer only.

3. Access to the advice and participation of individual experts in cancer and health in general.

All of the projects' organizers were able to draw, in varying degrees, on existing technical expertise in oncology in cancer centers, medical societies, and universities. This expertise was used to design screening services, to guide data analyses and the writing of cancer plans, to hold cancer prevention and control training workshops, and to coordinate statewide screening efforts. The involvement of experts lent credibility to these projects during the

National Cancer Institute grant reviews and enabled States to overcome their lack of personnel experienced in cancer prevention and control.

4. An informed State legislature.

The two State health agencies that obtained additional State funding for cancer prevention and control had support from key legislators. The legislators regularly received information from health departments either directly, or via cooperating agencies, on the cancer problem in their State and were made aware of current State cancer prevention and control efforts.

5. Diffusion of cancer prevention and control efforts.

Once intervention strategies are determined to be effective, they should be diffused among others who might benefit. A key measure of the success of the capacity building process has been the ability of the health department to serve as an agent for change in promoting and facilitating the adoption of cancer prevention and control strategies throughout the State. Examples of this include the St. Cloud project that has been expanded to three other sites in Minnesota. All three sites have adapted materials and processes from the original project and from established coalitions and are even raising their own project funds. Another example, on a national level, is evidenced by the diffusion of California's "5 a Day" program. Vermont and Louisiana are conducting similar programs under a licensing agreement to use California materials and consultation. Experience and the information and materials developed by the grantees were shared during annual grantees' meetings convened by NCI and also were made available through monthly mailings to all State health departments nationwide.

Conclusions

The TDHA grants to the nine health departments served as catalysts for these public health agencies to acquire experience and expertise in cancer prevention and control while conducting interventions. For a relatively modest cost (\$7.4 million total) over the 5-year period, this program helped State health departments to develop expertise and to create innovative new programs that have endured. The success of this initiative has stimulated increased NCI grant support to public health departments that, as of 1991, involves an additional 22 States and the District of Columbia.

A key element to the success of the TDHA projects was to allow the agencies a tremendous

amount of flexibility as they developed the necessary capacity to conduct interventions in cancer prevention and control. This flexibility ranged from hiring a marketing person, as was needed for a statewide nutrition education effort in California, to staff training in Los Angeles, a service-oriented agency. Flexibility allowed grantees to identify their own priorities, tailor interventions to fit their needs and delivery systems, and establish linkages with persons and organizations that could help them to achieve objectives.

While flexibility was a positive aspect of this grant program, the different methods used to organize cancer control programs limit our ability to evaluate what transpired. This lack of a common framework stems, in part, from not knowing what to expect when breaking ground in a new area. Although it is important for future capacity building projects in cancer control and in other health areas to encourage alternative program structures and strategies, it is critical that a plan to evaluate both internal and external factors be established at the outset.

Grantees indicated that evidence of a project's success manifests itself in such areas as increases in staff, ability to obtain resources, satisfactory completion of projects, and institutionalization of the program within a given agency. In terms of NCI's goal, the strongest evidence of the success of developing technical capacity for cancer control in public health agencies is seen in the diffusion of cancer control activities.

The "Cancer Control Technical Development in Health Agencies" grant program provides one model for initiating a process of making cancer prevention and control an integral and permanent part of public health agencies. While many current grant programs at the National Cancer Institute and at the Centers for Disease Control focus on single priority areas, such as breast cancer screening, these programs nevertheless require a certain level of technical capacity. We believe that the success of health agency cancer control efforts, begun either alone or in collaboration with the Federal Government, rests on building technical expertise in the areas described in this paper.

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